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ABSTRACT

The Third International Mathematics and Science Study (TIMSS) is the largest, most comprehensive, comparative study of mathematics and science education with more than half a million student participants from three stages of their schooling in 45 different countries. This monograph is the first in a series of three which will report on TIMSS in Australia, one for each of these populations. It contains a description of the procedures used and results obtained from the study of Population 2, which included the two adjacent grade levels containing the largest proportion of 13-year-old students at the time of testing. Chapter 1 provides the background for the study while chapters 2 and 3 contain international and national results on the achievement tests, presented together with a discussion of important student characteristics. These are followed by chapters presenting some sample mathematics and science test items, an indication of the item difficulty levels, where they fit in terms of the curriculum profiles for Australian schools, and a discussion of performance in content area categories within mathematics and science. The performance assessment components of TIMSS is featured in chapter 6 followed by a discussion and some results of the international and national curriculum analyses in chapter 7. Chapters 8, 9, and 10 provide a description of the Australian schools, teachers, and students who participated in TIMSS and examine several factors in relation to student achievement. The final chapter raises some questions for Australian educational policy agendas based on the TIMSS results. Appendices contain statistical tables, item difficulty maps, publications used for document analysis, and a bibliography. (JRH)